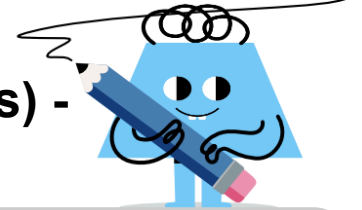
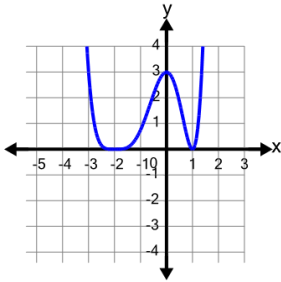




Function Root Behaviour (Polynomials) - Graph to Behaviour



1 What root behaviour does this graph show?



A at $x = -2$: touches the x-axis without crossing
at $x = 1$: touches the x-axis without crossing and flattens

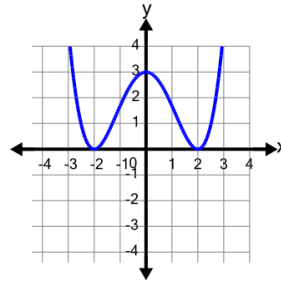
B at $x = -2$: touches the x-axis without crossing and flattens
at $x = 1$: touches the x-axis without crossing

C at $x = 2$: crosses the x-axis
at $x = 4$: crosses the x-axis

D at $x = -2$: crosses the x-axis and flattens
at $x = 1$: touches the x-axis without crossing

E at $x = -1$: touches the x-axis without crossing
at $x = 2$: touches the x-axis without crossing and flattens

2 What root behaviour does this graph show?



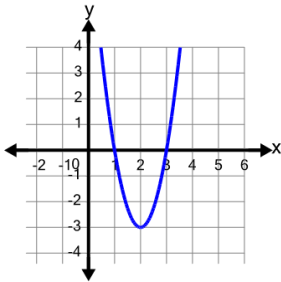
A at $x = -2$: touches the x-axis without crossing
at $x = 2$: crosses the x-axis

B at $x = -2$: touches the x-axis without crossing
at $x = 2$: crosses the x-axis and flattens

C at $x = -2$: crosses the x-axis and flattens
at $x = 2$: touches the x-axis without crossing

D at $x = -2$: touches the x-axis without crossing
at $x = 2$: touches the x-axis without crossing

3 What root behaviour does this graph show?

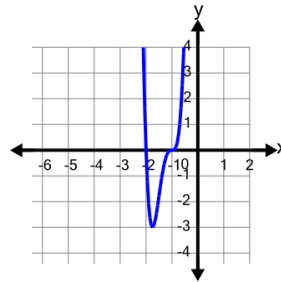


A at $x = -3$: crosses the x-axis
at $x = 1$: crosses the x-axis
at $x = 2$: crosses the x-axis

C at $x = 1$: crosses the x-axis
at $x = 3$: crosses the x-axis

E at $x = -3$: crosses the x-axis
at $x = -1$: crosses the x-axis

4 What root behaviour does this graph show?



A at $x = 1$: crosses the x-axis
at $x = 3$: crosses the x-axis

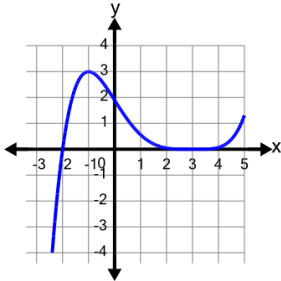
B at $x = -2$: crosses the x-axis
at $x = -1$: crosses the x-axis and flattens

C at $x = -3$: crosses the x-axis
at $x = -1$: crosses the x-axis and flattens

D at $x = 1$: crosses the x-axis and flattens
at $x = 2$: crosses the x-axis

E at $x = -2$: crosses the x-axis and flattens
at $x = -1$: crosses the x-axis

5 What root behaviour does this graph show?



A at $x = -2$: crosses the x-axis
at $x = 3$: crosses the x-axis and flattens

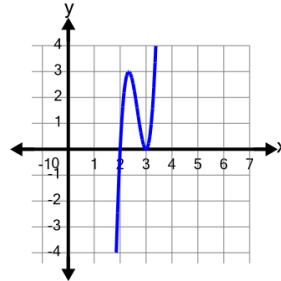
B at $x = -3$: touches the x-axis without crossing and flattens
at $x = 2$: crosses the x-axis

C at $x = 1$: crosses the x-axis
at $x = 4$: crosses the x-axis and flattens

D at $x = -2$: crosses the x-axis
at $x = 3$: touches the x-axis without crossing and flattens

E at $x = -2$: touches the x-axis without crossing and flattens
at $x = 3$: crosses the x-axis

6 What root behaviour does this graph show?



A at $x = -3$: touches the x-axis without crossing
at $x = -2$: crosses the x-axis

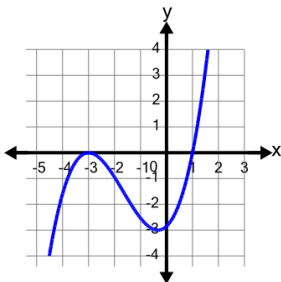
B at $x = 2$: crosses the x-axis
at $x = 3$: touches the x-axis without crossing

C at $x = 2$: crosses the x-axis
at $x = 3$: crosses the x-axis

D at $x = 1$: touches the x-axis without crossing
at $x = 2$: crosses the x-axis and flattens

E at $x = 2$: touches the x-axis without crossing
at $x = 3$: crosses the x-axis

7 What root behaviour does this graph show?



A at $x = 1$: crosses the x-axis
at $x = 2$: crosses the x-axis

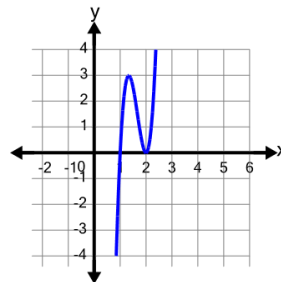
B at $x = -3$: touches the x-axis without crossing
at $x = 2$: crosses the x-axis

C at $x = -1$: crosses the x-axis
at $x = 3$: touches the x-axis without crossing

D at $x = -3$: touches the x-axis without crossing
at $x = 1$: crosses the x-axis

E at $x = -3$: crosses the x-axis
at $x = 1$: touches the x-axis without crossing

8 What root behaviour does this graph show?



A at $x = 1$: crosses the x-axis
at $x = 2$: touches the x-axis without crossing

B at $x = 1$: touches the x-axis without crossing
at $x = 2$: crosses the x-axis

C at $x = -2$: crosses the x-axis
at $x = -1$: touches the x-axis without crossing

D at $x = 0$: crosses the x-axis
at $x = 2$: touches the x-axis without crossing

E at $x = -2$: touches the x-axis without crossing
at $x = -1$: crosses the x-axis